Lawrence J. Roll, K3LT
1300 S. Farmview Dr. A-31
Dover, DE 19904-7721
(302) 678-4841

Office of the Secretary
The Federal Communications Commission
1919 M. St. NW - Room 222
Washington, DC 20554

IN THE MATTER OF: )
)
1998 Biennial Regulatory Review )
Amendment of Part 97 of the Commission's )
WT Docket 98-143 Amateur Service Rules )

COMMENTS OF: Date: November 15, 1998

Lawrence J. Roll, K3LT
1300 S. Farm View Dr. A-31
Dover, DE 19904-7721

I am filing these comments regarding the FCC's proposed amendment of Part 97 of the Commission's Amateur Service Rules, WT Docket 97-143. I intend to present my comments in the form of a proposal for changes to the Amateur Service rules, which I believe would serve as the best compromise between the recent proposals of the FCC and the American Radio Relay League (ARRL). My comments will mainly address the issue of change to the amateur radio licensing structure with regard the number of license classes, testing requirements for proficiency in the Continental (International Morse) code, and Volunteer Examiner (VE) testing of radio amateurs. I fully support recent improvements the Commission has made to the process of enforcement of the amateur service rules. I am essentially satisfied with the remainder of the Part 97 Amateur Radio Rules, and suggest no other changes at this time.

SUMMARY

I support the proposal to eliminate the existing Novice and Technician-Plus classes, leaving the Technician, General, Advanced, and Amateur Extra class licenses. I recommend retention of the three Morse code testing elements of 5, 13, and 20 WPM, increasing privileges granted to all but the Amateur Extra class license. I recommend reallocating current Amateur Extra class voice privileges to the Advanced class. The present Novice and Technician-Plus CW sub-bands on the 80 meter (3675 - 3725 kHz), 40 meter (7100 - 7150 kHz), 15 meter (21.100 - 21.200 MHz), and 10 meter (28.100 - 28.300 MHz) bands should be redesignated as CW Training Sub-bands, for use by any General, Advanced or Amateur Extra class licensee, with the present 200 watt output power restriction retained. The use of digital modes (RTTY, PACTOR, etc.) should be authorized on the respective top half of each CW Training sub-band, with the same power output restriction. Written examination element 4(B) for the Amateur Extra class license would be increased by 10 questions to 50, giving all license classes an equal number of questions.

These comments will suggest that the code testing speed for element 1(B) remain at 13 WPM, but acknowledges that a change to 12 WPM may be necessary to achieve parity with code testing speeds used by most ITU member nation's amateur radio services. However, considering the insignificant difference, it would be simpler to leave the 1(B) code test at the present 13 WPM.

With the reduction in the number of license classes, it will be necessary to limit VE testing certification to Advanced and Amateur Extra class licensees, with Amateur Extra VE's being able to conduct testing for all four classes, and Advanced VE's able to conduct testing for Technician and General class only.

PROPOSED PART 97 RULE CHANGES:

I propose that Part 97 of the Amateur Radio Service Rules be changed as follows:

(a) Eliminate the present Novice and Technician-Plus license classes, leaving four license classes: Technician, General, Advanced, and Amateur Extra.

(b) Retain all three of the present Morse code testing Elements: 1(A) (5 WPM), 1(B) (12 or 13 WPM), and 1(C) (20 WPM.) (See Note 1 below.)

(c) Re-structure the Morse code testing portion of the licensing examination requirements for the General, Advanced, and Amateur Extra license classes as follows:

(1) General class - Element 1(A) (5 WPM).

(2) Advanced class - Element 1(B) (12 or 13 WPM) (see Note 1 below).

(3) Amateur Extra class - Element 1(C) (20 WPM).

(d) (1) Re-structure the frequency allocations for the 80, 20, and 15 meter Amateur HF bands by refarming the present Amateur Extra-class voice mode allocations at 3750 - 3775 kHz, 14.150 - 14.175 MHz, and 21.200 - 21.225 MHz to the Advanced class. This would leave only the remaining 100 kHz of CW spectrum on the 80, 40, 20, and 15 meter bands at 3500 - 3525, 7000 - 7025, 14000 - 14025 and 21000 - 21025 kHz as spectrum exclusive to the Amateur Extra class.

(2) Retain the present Novice and Technician-Plus HF cw sub-bands on 80 meters (3675 - 3725 kHz), 40 meters (7100 - 7150), 15 meters (21100 - 21200 kHz) and 10 meters (28100 - 28200 kHz) as CW Training sub-bands. Permit digital mode operation (such as radio teletype or PACTOR) on the respect top halves of each sub-band.

(e) Increase the number of questions in element 4(B) to 50, with a minimum passing score of 37 questions answered correctly. The breakdown of topics in this examination element would be as follows (Ref: §97.503):

Element 4:

(1) FCC rules for the Amateur Radio Service - 8 questions (no change)

(2) Amateur station operating procedures - 6 questions (+2)

(3) Radio wave propagation characteristics of amateur service frequency bands - 4 questions (+2)

(4) Amateur radio practices - 6 questions (+2)

(5) Electrical principles as applied to amateur station equipment - 6 questions (no change)

(6) Amateur station equipment circuit components - 6 questions (+2)

(7) Practical circuits employed in amateur station equipment - 4 questions (no change)

(8) Signals and emissions transmitted by amateur stations - 5 questions (+1)

(9) Amateur station antennas and feed lines - 5 questions (+1).

(f) Written Examinations: Re-structure the written examination element requirements for the Technician, General, Advanced, and Amateur Extra classes as follows (see Note 2):

(1) Technician Class: Element 2 and 3(A).

(2) General Class: Element 1(A), 1(B), or 1(C), 2, 3(A) and 3(B).

(3) Advanced Class: Element 1(B) or 1(C), 2, 3(A), 3(B), and 4(A).

(4) Amateur Extra class: Element 1(C), 2, 3(A), 3(B), 4(A), and 4(B).

(g) Grandfathering: Present Novice and Technician-Plus licensees would be automatically grandfathered to their existing operating privileges for five years, or until expiration of their current license, whichever is longer. Additionally, they would be given element-for-element credit when upgrading to General class or higher. Present Novices would be upgraded to General class must pass examination elements 3(A) and 3(B). Technician-Plus class licenses would upgrade to General class by passing examination element 3(B).

(h) Volunteer Examination System: Amateurs with Amateur Extra class licenses would be permitted to serve as Volunteer Examiners for persons testing for a Technician, General, or Advanced class license. Advanced class licensees would be permitted to serve as VE's for persons testing for a Technician or General class license.

Notes:

1. In all references to the Element 1(B) Morse code test at 13 WPM, it is suggested that the present speed level of 13 WPM be retained. However, if the Commission should decide to reduce this test to 12 WPM for the purpose of harmonizing the Morse code test conferring full HF voice and data privileges with that of the ITU member nations, this would be an acceptable compromise.

2. All examination elements except 4(B) should remain essentially the same in content, number of questions, and topic breakdown. It is this commentor's position that the present testing syllabus adequately addresses the needs of an *amateur* radio service. Changes to the testing elements reflecting the new licensing structure, and updating digital techniques, would be the only revisions necessary.

DISCUSSION

This proposal is intended to serve as a compromise between those who see the present amateur radio licensing structure as being too heavily weighted toward Morse code testing for HF privileges, and those who favor the status quo. The major focus of this debate is access to the amateur HF phone sub-bands. There is a very strong attraction to HF phone operation, in as much as it provides instant gratification to the user, a sense of personal power

projection over long distances, and, unquestionably, a natural and uncomplicated means of expressing thoughts and ideas. This proposal serves the perceived need of reducing the "code barrier" to HF phone privileges. It confers expanded General-class HF phone privileges for a code testing speed of only 5 WPM -- a reduction of over 60 percent. Without ever taking another code test, it would be literally possible for a radio amateur with a General class license to do everything possible in the world of amateur radio, save for use of a few exclusive DX "windows" for CW and phone operation. Additionally, the present Amateur Extra class phone privileges are reallocated to the Advanced class. The 20 WPM code test, while retained for the Amateur Extra class, would no longer have voice privileges at stake. Instead, the motivation to upgrade to Amateur Extra would be the increased CW bandwidth, the ability to serve as a Volunteer Examiner for all license classes, and the prerogative of a Group "D" 1x2 or 2x1 call sign. The detachment of higher CW proficiency requirements from full HF phone privileges should effectively eliminate further objections to higher speed code testing, yet maintain the traditionally preeminent status of the Amateur Extra class license.

The testing of radio amateurs for proficiency in the use of the Morse Code has been one of the most controversial issues in the Amateur Radio Service. In the last ten years, largely through the emergence of the Internet, the Morse code debate has raged hotly -- creating a great deal of interest, emotion, and even the occasional logical and reasonable argument, on both sides of the issue. Regardless of one's personal opinion of whether the testing requirements are too severe or just right, the fact is, testing radio amateurs for code proficiency is the only way we can get code proficient amateurs in the first place. Speaking mainly from personal experience, people won't voluntarily learn the Morse code, unless provided with compelling external motivation to do so. I spent 14 years railing against the code testing requirements, before I finally decided I wanted to be come a radio amateur bad enough to overcome my objections. Having done so, and having been converted to an avid user of CW in addition to the HF digital modes, I see the value of continued code testing in the Amateur Radio Service. Learning and mastering the Morse code not only confers a useful communications capability, it also engenders operational discipline, and an appreciation for privileges earned at significantly higher personal cost in terms of time and effort.

The on/off keyed CW mode, using the Morse code, provides amateur radio operators with a uniquely practical, effective, efficient, and universal means of electronic communications. This mode has well known benefits and advantages from a standpoint of the simplicity of the equipment required, immunity to interference from both natural and man-made sources, and it's ability to permit amateur radio stations to intercommunicate effectively at bare minimum RF output power levels. It is the perfect adjunct to HF voice and digital modes, permitting an alternative mode of communication which goth conserves electrical power, and enables communications to be conducted using the simplest, lowest-cost, and most ubiquitous RF technology available. It is the ultimate "back-up" mode, and perhaps the most logical primary mode of communication, depending on existing circumstances experienced by individual radio amateurs. However, radio amateurs cannot exploit the benefits and advantages of this mode unless they know the Morse code, and can employ it with a moderate level of proficiency. Hence, the need to continue code testing at three logical, graduated levels, which provide an easy entry level for general HF access (5 WPM), an intermediate level (12 or 13 WPM) at which effective traffic handling via CW becomes possible, and a top level (20 WPM), at which truly efficient traffic handling is possible, and is the threshold for even greater individual code proficiency.

The problem with the Morse code, and the essence of the debate for and against testing for it, is that the use of the Morse code doesn't come as

naturally as the use of one's own voice. The use of the Morse code is a physical skill which must be learned and practiced in order for a minimal level of proficiency to be attained. This requires a considerable amount of time and effort to be expended on the part of the prospective licensee. However, it is a proven fact, that people from all walks of life have been able to take, and pass, Morse code tests required for Amateur Radio licensing. Morse code testing also significantly delays the gratification sought by many prospective radio amateurs - the use of the HF voice modes. Many proponents of reducing or eliminating the code testing requirements claim that 13 or 20 WPM is too fast. However, the speed levels demanded at present do not represent high-speed Morse code operation at all. Twenty five words per minute, which is 20 percent faster than the highest amateur code testing speed, is the level at which former military and commercial radiotelegraph operators would be barely qualified to operate on-the-air. After a few month's experience handling message traffic, they would soon be operating at speeds up to three times as fast. Amateur radio code testing speeds are dead slow by comparison, as they should be as a qualification to participate in a radio service intended to be accessible to non-professional radio operators.

Throughout the debate for and against amateur code testing, a lot has been made about the need for radio amateurs to develop and use digital communications techniques. I could not agree more. I am an avid user of digital techniques ranging from the older, tried-and-proven radio teletype (RTTY), to PACTOR. My only wish is that there were more RTTY and PACTOR operators to communicate with! The sub-bands normally applied to these modes are usually under-utilized. Unfortunately, one can tune through the HF phone sub-bands and find them full, if not crowded, at all times when propagation conditions are good. Obviously, there is no lack of amateurs with license privileges which would permit digital mode operation; they are simply not doing it! It's still easier to pick up a microphone and start talking! The few digital mode operators found tend to be older, more experienced amateurs, most of whom hold Amateur Extra-class licenses. Obviously, there is some doubt as to the likelihood that reduction of licensing standards, with respect to code testing, is going to have any effect on the development and use of the HF digital modes. The only effect it would have is to virtually assure that the average proficiency level in CW operation will decrease, eventually causing this advantageous mode to be supplanted by more phone operators -- not more digital mode operators.

A perfect example of how reduction of standards does not lead to technological advance, can be seen on the amateur VHF and UHF bands. Since the inception of the so-called "No-code" Technician class license in 1991, there has been a great deal of interest in the use of the FM voice mode using repeaters. However, the use of the most predominant VHF digital mode, Packet Radio, has generally not tracked the increase in licensed VHF/UHF operators. Indeed, the present U.S. packet radio infrastructure is disappointingly underdeveloped and underutilized. When the 5 WPM code requirement was lifted from the amateur bands above 50 MHz, we were assured that this change would bring us an influx of computer-literate, technically inclined radio amateurs who would help bring about great improvement in our digital mode infrastructure. In most parts of the country, this has not happened. What the Amateur Radio Service got instead, was large numbers of technically-uninvolved "users" of amateur radio spectrum. A very typical scenario would be the established amateur with a General, Advanced, or Amateur Extra-class license, who has his wife and/or children obtain a "No-code" Technician class license so that they can use the local VHF or UHF repeater to keep in touch as they travel about on errands, commuting to work, etc. Or the former user of the Citizen's Band, who becomes a Technician and uses FM repeater and simplex frequencies for the usual daily chatting with the same few friends and acquaintances. Sure, a lot of talking is being done, but where is the

technical development? Reduced licensing standards are certainly not bringing it about; at least not to an extent noticable by most amateurs in most areas of the country. The only thing we're sure it's bringing in are greater numbers of increasingly less technically-involved "consumers" of amateur radio spectrum.

A great deal of the debate centers on the aftermath of the "Incentive Licensing" system introduced in the late '60's. The problem there was that the then General and Advanced class licensees were not "grandfathered" to the Amateur Extra class. This loss of privileges has, in some of these older amateurs, caused intense resentment which is alive and well today. This resentment usually surfaces in the form of accusations that present-day Amateur Extra-class holders are "snobs," or "elitists." The jargon of political correctness is usually dragged out, inculpating the Amateur Radio Service, and those who have risen to the top of the licensing structure, for not being "inclusive" of the poor downtrodden masses, who only wish to talk on the radio, but are being denied the privilege due to the burdensome Morse code testing requirement. While it is not possible to fix the mistakes of the past, it is certainly possible not to repeat them. The proposal offered would assure no such problems came up; the FCC and ARRL were quite correct to suggest liberal "grandfathering" provisions in their respective proposals. No privileges, *or* status, should be lost by currently licensed amateurs.

The Amateur Radio Service must continue to be a service which encourages technical involvement. It is also vital to retain the emergency backup communications capability traditionally associated with the service. It is not necessary to reduce the Amateur Radio Service into a consumerized "Family Radio Service;" one already exists. Perhaps the FRS should have it's capabilities expanded to permit repeaters and higher-powered equipment, to provide land-mobile communications over larger geographical areas. This would leave the Amateur Bands to amateur radio operators -- people involved in a long-term learning experience, and dedicated to performing a public service. Radio amateurs must retain older, proven methods of communication, as well as develop newer, high speed digital techniques. The two are not mutually exclusive.

CONCLUSION

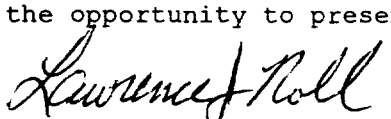
It must be remembered that those clamoring loudest for "change" in the Amateur Radio Service are those who stand to make substantial gains in operating privilege, without any further effort on their part. Like it or not, it's the truth. What they want is a microphone in their hand or on their desk, and their voices heard in far-away places. This is a most lucrative motivation. However, accommodating this motive doesn't do much to strengthen the technical training, emergency communication, and public service objectives of the Amateur Radio Service. Reduced licensing standards would only give us more hams who know less and have fewer communications capabilities. The "social class" distinction will not go away either. What we'll end up with are "older" hams licensed under a more stringent system, who will be justifiably able to consider themselves superior, in all ways, to those entering under a system of reduced standards. "Elitism" will not die; it will become even more palpable than ever. I, as an Amateur Extra class licensee, will always consider myself as such; no one will ever take that "status" away from me. I assure you, the majority of my Amateur Extra class colleagues feel the same way. This is human nature; to deny it would be foolish. The best way to overcome it is not to "fix" a licensing structure which generally isn't "broken." Reducing to four license classes, and granting greater privileges to the General and Advanced classes, while retaining the Amateur Extra and

it's 20 WPM code test, is not a radical change, but it is a significant change.

Eliminating the 20 WPM code test for the Amateur Extra class, and making the written tests "harder," is not the answer. The "old system" hams will still have an important communications capability at their disposal, which the newer ones will generally be lacking. Newer amateurs, should they decide to learn and embrace Morse/CW operation, would no longer have the "incentive" of higher status to do so. If you don't think any of these considerations are important, then ask yourself this question: "Have I ever achieved anything that I'm proud of?" Does your college degree hang proudly on a wall in a nice frame, or is it rolled up and stuffed in a drawer? Have you ever competed in a sport, won an event, and displayed your trophy in a place of honor in your home or office? Have you ever received some important recognition which you've completely dismissed as a non-achievement? If not, then why do we wish to reduce the Amateur Radio Service to a class-less, value-less activity which can be participated in by anyone who can afford some equipment?

The Amateur Radio Service has traditionally served as a means of encouraging learning in the fields of electronics and communications. It used to be the source of great advancement in the technical state of the art. That aspect has now changed; however the learning aspect is still there to be exploited. Amateur Radio is also an excellent way to bring people together, encourage friendly competition, and give people a sense of accomplishment. Please do not take away these aspects of our service. The herein proposed changes to the licensing system are a fair and generous compromise, which will both encourage growth and retain all the best aspects of amateur radio long into the future. I hope you will give them favorable consideration.

I thank the Commission for your kind attention to these comments, and the opportunity to present them.



Lawrence J. Roll, K3LT
Member, The American Radio Relay League
Member, FISTS - The International Morse Preservation Society (#2008)